

# International Turfgrass

The Newsletter of the International Turfgrass Society

May 2015 Edition

## Societal benefits of golf – A case study at Sigtuna Golf Club, Sweden

By Maria Strandberg  
STERF Director, Sweden

The initiative for the *Sigtuna Project – a Landscape for all* was taken in spring 2012 by Sigtuna Golf Club, the Sigtuna branch of the Swedish Association for Nature Conservation and STERF, in close collaboration with Sigtuna local authority. Inspiration was taken from the STERF project ‘Multifunctional golf courses – an under used resource’ and the European Landscape Convention. Some important key words in the project are ‘overarching’ ‘involvement’ ‘inspiration’ and ‘approach’.

The area around Garnsviken and Sigtuna Golf Club, 2 km northeast of Sigtuna, Sweden, is a naturally defined area where conservation values as well as historical values and modern outdoor activities are clearly represented. The area is unique and contains a number of different types of landscapes that have conservational value, both from the result

of human activity and from natural origin. Sigtuna with its medieval centre, is Sweden’s first and oldest city dating back to 970 C.E.

### The aims of the project are to:

- use the local golf club as a driving force to improve the availability and sustainable development of the area containing cultural, nature and recreational values as well as economically viable activities in the defined area at Garnsviken;
- implement an open democratic proactive “visionary planning process”;
- identify, promote and expand business advantages of multifunctional activities for the golf facility as well as for the area stakeholders; and
- act as an “umbrella” project for all initiatives in the defined area and a coordinating platform for activities aiming to develop the area.

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Later this summer the ITS board members and officers will convene in New Brunswick, New Jersey to finalize plans for the 13<sup>th</sup> International Turfgrass Research conference. Detailed information about manuscript submission deadlines, section editors, and other information will be in the September, 2015 edition. Again, if there are additional items regarding the International Turfgrass Society you would like to see included in the newsletter in the future, don’t hesitate to contact me with your suggestions.

Also, if you have any newsworthy stories or information for readers of International Turfgrass, I hope you will consider submitting an article for the next newsletter in september 2015.

I hope you enjoy the very good articles in this edition.

Sincerely,  
Nathan R. Walker

### In this Edition

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In the folder “Societal Benefits of Golf - Inspiration and ideas for local partnership” we describe the *Sigtuna Project - A Landscape for All* and present our experiences of local partnership. It is our hope is that this folder will inspire others to take initiatives, create partnerships and thus demonstrate the societal benefits of golf. The practical advice and ideas we share from the ongoing project are not intended to be copied, but one or other idea may of course be ‘borrowed’. Despite differences in conditions, we believe that this folder can inspire other to take their own initiatives for partnerships, which in turn will help to strengthen the role of golf in society.

The folder can be found on: [www.sterf.org](http://www.sterf.org)



## Dr. Victor Innes Stewart (1924-2014) – a pioneering turfgrass researcher

Dr. Victor Stewart died on the 23<sup>rd</sup> December 2014, aged 90. He was a true pioneer of sports turf research and development in the UK from the mid-1960’s to the mid-1980’s. Victor, together with colleague Dr. Bill Adams, were arguably the first turfgrass researchers in the UK to truly bridge the gap between scientist, drainage contractor and groundsman.

Based in the Soil Science Unit of the then named University College of Wales in Aberystwyth, Victor had a keen interest in the extent to which soils varied in form and behaviour, the causes of this variation and its significance for land use. His interests covered the physics, chemistry and biology of soil, and the manipulation of soil for various types of land use and engineering purposes. Sports turf was not Victor’s only interest – land reclamation after opencast coal mining was another major part of his work.

The Soil Science Unit was originally part of the Department of Agricultural Chemistry but became physically separate from the Department when the old student refectory at the university was refitted in the early 1960’s to accommodate a soils research laboratory. This small wooden building, no bigger than a modest mountain hut, soon became a focus for sports turf research work following the appointment



Picture taken at Aberystwyth in 1980, left to right: Bill Adams, Victor Stewart, Keith Boyce (Headingly), Chris Hawkins (Old Trafford), Harry Brind (The Oval), Bernard Flack (Edgbaston), and Ron Allsopp (Trent Bridge). [Names of various cricket grounds are shown in brackets after the name of the corresponding grounds keeper]

of Dr. Bill Adams in 1965 because both Victor and Bill were particularly interested in sport and the problems which arose when soil and grass were used for sports purposes. At that time, the playing character of cricket pitches was of major interest to cricket commentators and journalists. Realising the importance of soil for cricket, they wrote to the administrators of cricket (the Marylebone Cricket Club) to ask if they would give permission to visit and take samples from county

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cricket grounds. Unknown to them at the time was that the cricket authorities were concerned about county cricket pitches and had set up a working party so their approach was timely.

Permission was granted and between them, Victor and Bill toured the country taking samples and making measurements of ball rebound and penetration resistance as well as making observations on grass cover, grass species and profile character. This survey led to their attendance at the first ITS conference in Harrogate in 1969, the local arrangements of which involved several from STRI. At the conference they presented a paper, which has since become a 'classic' for turfgrass students around the cricket-playing countries of the world: 'Soil factors affecting the control of pace on cricket pitches'. It was in this paper that the 'ASSB' (Adams Stewart Soil Binding) or 'Motty' test was introduced to the scientific community - one of the great practical UK turf testing methods for cricket pitch soils. This research led to both Victor and Bill providing annual county groundsmen courses at Aberystwyth that carried on into the 1980's.

At the ITS conference in 1969 they were both impressed with the work in the USA and Scandinavia on pitch drainage and soil suitability criteria for sports turf. This led on to research and practical implementation of bypass or slit drainage, pitch profile construction and rootzone specifications for UK conditions. The first major project in this area was when the very poorly-drained Cardiff Arms Park ceased to be Cardiff Rugby Club's ground and in effect became the National Stadium. In 1970 they sand slitted the pitch with a McConnell trenchless drainer

and it was extremely successful. Bill Clements, the then secretary of the Welsh Rugby Union commented at the time: "Stewart and Adams were right about one thing; they said it would be a bloody mess and it is!" But the drainage system installed did totally transform the pitch and the Welsh Rugby stars had a great pitch in the early seventies.

After retirement in 1986, Victor continued to offer soil science and sports turf consultancy for several years. In 1994 he published his 'pot-pourri' of papers on soils and sports turf into a detailed, practical guide approved by the National Playing Field Association (now known as Fields In Trust) called 'Sports Turf: Science, Construction and Maintenance', published by E&FN Spon, a book that continues to be well used by sports turf consultants, students and practitioners. Victor was a research scientist looking for the pitch of perfection. For him and Bill, the criterion of success was not that of the commercial man – "Will it sell?" – but, "How far do we understand how it works?" and "Could we not do better?" (June 1971).

Victor is survived by his wife Shirley and their two sons, Duncan and Ewan.

Dr. Richard Gibbs, Head of Sports Surface Science, STRI, UK, ITS Historian (2013 – present), and Post doctoral researcher, Soil Science Unit, Aberystwyth (1986-1990)

Acknowledgements:

I am grateful to Prof Bill Adams for assistance with this article.

## **Dr. John Cisar Retires from the University of Florida**

Dr. John Cisar grew-up in Passaic, New Jersey, the youngest of six sons of Michael and Paulina Cisar. His mother, Paulina, was born in Czechoslovakia and at the age of seven immigrated alone to the USA after World War I to reunite with her parents who arrived just before the war. His father was orphaned shortly after birth. His parents dedicated their lives to helping their children get ahead, and John has shared that philosophy with his family and many others throughout his career. He received a B.A. (Honors) in Botany from Rutgers University, an M.S. in Floriculture and Ornamental Horticulture from Cornell University, and earned his Ph.D. in Biological Sciences at the University of Rhode Island.



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Dr. Cisar began his academic career at the University of Florida – Ft. Lauderdale Research and Education Center (Ft. Lauderdale, FL) in December 1986 as an Assistant Professor of Environmental Horticulture. His academic appointment was 70% extension / 30% research, but he has assembled an impressive record of research and outreach in the following areas: water quality, effluent irrigation on nutrient leaching, nitrogen and pesticide fate, turfgrass nutrition, irrigation efficiency, soil water repellency, soil amendments, evaluation of wetting agents, evaluation of plant health products, turfgrass physiology, bermudagrass and St. Augustinegrass evaluation and management, and much more. His work has been supported by the United States Golf Association Green Section, Golf Course Superintendents Association of America (GCSAA), Florida Turfgrass Association, FL Dept. of Environmental Protection, Soil Science Society of America, and many other segments of the green industry.

After 28 years, Dr. Cisar retired from the University of Florida in December, 2014, at the rank of full professor. During his tenure in academia, he served many posts including coordinator of the University of Florida's undergraduate turfgrass program. He has mentored and served on the committees of many MS and Ph.D graduate students.

His graduate students have been successfully employed in academic positions in universities, director of an agriculture and environmental testing laboratory, research and development positions with global agrichemical companies, and consultants in the green industry. Dr. Cisar has many publications in scientific journals, and also extension and trade journal articles. He has 398 publication entries listed at the Turfgrass Information Center ([www.tic.msue.edu](http://www.tic.msue.edu)).

Dr. Cisar has been a frequent lecturer at the GCSAA's Golf Industry Show, delivering seminars and workshops on warm-season turfgrass management, irrigation efficiency, and soil and water quality. Since arriving in Florida, he has conducted the South Florida Turf Exposition typically in March every year, which has become a premier event for Florida's turfgrass industry. As noted previously, "Dr. Cisar's influence and willingness to interact with industry in south Florida was unlimited, but more importantly he carried the University of Florida name around the world during sabbatical in New Zealand and many other places where his knowledge, expertise and passion for the industry were gratefully accepted. He produced a research field day on his own along with his assistant, Ms. Karen Williams, which rivaled any turfgrass field day program around the USA with over 400 attendees on a regular basis."

## **Turfgrass implantation in one month for the Football Africa Cup of Nations in Equatorial Guinea**

by Diego Gómez de Barreda and Jorge Palma  
Universitat Politècnica de València, Valencia-Spain

The Africa Cup of Nations is the main international football competition in Africa. It is usually celebrated every two years. In 2015, it was scheduled to be held in Morocco, but they refused in October 2014 due to the Ebola outbreak and the competition moved to Equatorial Guinea that accepted to organize the event around the 20th of November with the games scheduled to start on the 17th January 2015. Equatorial Guinea had previously organized this event in 2012.

Equatorial Guinea (Figure 1) is a small country in Africa (28,000 km<sup>2</sup>), comparable in size with Belgium in Europe or the state of Massachusetts in the USA. It was a former Spanish colony until 1968 and it is the only African country where Spanish is

an official language. Equatorial Guinea is split into a large continental area (26,000 km<sup>2</sup>) with Bata as the main city on the coast and an island with the capital of the state, Malabo. Climate is tropical with wet and dry seasons and average temperature around 27°C (70°F) in the continental area. Rainfall ranges from 2,000 to 11,000 mm (76 to 430 in).

They needed four stadiums: two of them (Malabo and Bata stadiums) were already in use at that time, so little management was required. The other two stadiums were located in Ebibeyin and Mongomo (Figure 1), two inland cities at the border with Gabon. Turfgrass was abandoned in both

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Figure 1: Equatorial Guinea situation and stadiums location in the country.

stadiums years ago, when they were built for the 2012 Africa Cup of Nations held in Equatorial Guinea as well.

The opening ceremony and first match was planned for the 17th of January and the Equatorial Guinea government didn't commission the turfgrass renovation for the Ebibeyin and Mongomo stadiums until the 13th of December. It was commissioned to the Spanish company Dalmau GE which is working in Equatorial Guinea dealing on agricultural projects and also involved in the 2012 Africa Cup of Nations. They had the commission of building a new turfgrass surface in both stadiums as the turfgrass surface had been abandoned (Figure 2).

It was decided to sod the fields instead of sowing them, but there were no sod farms in Equatorial Guinea and surrounding countries, so that it was planned to send 24,000 m<sup>2</sup> of sod from Spain to Equatorial Guinea by plane. Initially the sod was going to be washed due to the expected incompatibility between the finer clayed soil in the Spanish sod farm with the sand based ground in the stadiums. Besides, unwashed sod rolls weight was



Figure 2: Mongomo stadium in December 2014 (1 month before the opening ceremony).

another problem as more aircrafts had to be used for transportation. Another problem emerged when the washed sod resulted in poor tensile strength, finally deciding not to wash the sod.

The sod farm belonged to another Spanish company called Ibergreen. The sod species was bermudagrass cv. 'Tifway 419' (dormant at this time of the year in Spain) overseeded with perennial ryegrass cv. 'Vantage'. Roll sizes were 16,5 m<sup>2</sup> (22 m x 0,75 m) and 8,25 m<sup>2</sup> (11 m x 0,75 m) with 1,2 cm of soil and they were packed in pallets in groups of 3 (2 small ones and a big one) with a final weight ranging 900 to 1,150 kg per pallet (Figure 3). Sod weight increased few days earlier due to heavy rainfalls before harvesting it. A Boeing 747 plane (maximum load around 105 to 107 tons) was used, and the first flight took off from Spain on the 18th of December. After a 6 hours flight to Malabo (capital of the country in the island), another 1 hour flight to Mengomeyén (continental inland city) with a Ilyushin cargo plane (maximum load around 40 tons) and 2 hours of road transportation to the stadiums, they were able to plant the sod in 4 days. The first sod left Spain on the 18th December and it was settled down in the stadium on the 22nd December. The rest of the sod was planted during the Christmas week, including Christmas Eve and Christmas day.

Before sod arrival, the ground had to be properly prepared. Vegetation and the five first



Figure 3: Unloading sod rolls at the Malabo airport.

cm of soil were removed (Figure 4) followed by coastal sand placement and irrigation repair work. Sod management machinery, mowers, fertilizer, irrigation items (pumps, tubes, sprinklers and so on) and qualified workers were sent from Spain as well. Electricity supply in the area was inconstant and therefore irrigation practices were unpredictable.

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Figure 4: Vegetation and first soil layer removal.

No fertilizer was mixed with the soil before sod installation as the fertilizer arrived in the last plane, so that, it had to be spread over the turfgrass. Diammonium phosphate was used at the 200 kg per field rate (45-115-0 fertilizer units). After this fertilization, weekly fertilizations at 150 kg per field with the complex (20-10-5) were performed (around 40-20-10 fertilizer units per week).

Irrigation was very important, not only for the sod installation but also for its survival, (from December to February they are in the dry season). After planting the sod, several irrigations were performed during the day. The first irrigation was early in the morning (7:00 a.m.) at 5 L/m<sup>2</sup> with three more events along the day at 2,5 L/m<sup>2</sup>.

Bermudagrass greened up as soon as it arrived to Equatorial Guinea from Spain (27°C vs. 8°C average daily temperature in December respectively) and overseeded perennial ryegrass declined fast, not only due to temperature change but to the transportation process. Some portions of the sods didn't survive and they were removed and seeded with a mixture of bermudagrass cv. 'Sultan' and perennial ryegrass cv 'Paragon GLR'. After sod installation (Figure 5) the sod was rolled and the first mowing was performed



Figure 5: Sod plantation.



Figure 6: Mowing with a manual reel mower.

on the 30<sup>th</sup> of December with a manual rotative mower at 35 mm, followed by 3 more mowing events until a manual reel mower (60 cm wide) arrived on the 8<sup>th</sup> of January. With the new mower, the mowing height went down to 30 mm and to 27 mm just before the first match on the 17<sup>th</sup> January, with a two-day mowing frequency (Figure 6).

The championship lasted from the 17<sup>th</sup> of January to the 8<sup>th</sup> of February, with 6 games played on the sodded stadiums in 9 days and rainy season starting during the last game. At the end the sod implantation was a big success (Figure 7) thanks to a good quality sod from Ibergreen and great logistics management and turfgrass care from Dalmau GE.



Figure 7: The field on the morning of the first match.

## Chinese turfgrass professor in Norway

by Agnar Kvalbein, Bioforsk Turfgrass Research Group

Dr. Yajun Chen from Horticultural College, Northeast Agricultural University, Harbin, China is a guest researcher in Norway this year. Her good friend Dr. Bingru Huang at Rutgers University recommended the Norwegian Turfgrass Research Group to her, as they work with topics that are relevant for the turfgrass industry in northern China; winter stress management and water saving irrigation strategies for cool-season grasses.

Dr. Chen started her career working with horticulture and fodder crops, and she is still very interested in ornamental plants although her professional work now mostly is on turf grass stress physiology. So far she has spent most time investigating plant nutrition and drought stress in Kentucky bluegrass (*Poa pratensis*). During her stay in Norway she will be introduced to red fescue (*F. rubra*) which is a species that performs very well under Nordic conditions, even on golf greens.

“I came to Norway because I understood that the turfgrass research here is related to internationally important key areas. Here I’ve found scientists who work with practical issues in the field. This can help me broaden my knowledge and it will be valuable for me as a lecturer”, she says.

“Norway is a beautiful country and although it is located under the Arctic Circle I find the climate

similar to my hometown Harbin where the winter can also be challenging. I am eager to find out what the researchers and turf managers do to make the turf survive and perform well here in Norway. During my stay I will study water and fertilizer management at Bioforsk’s research station at Landvik. My fellow supervisor is Dr. Trygve S. Aamlid who is well known among my Chinese colleagues and highly recognized for his research on golf turf.”

“Thanks to support from the different jointed education programs, I have earlier had the opportunity to visit the South Australian Research and Development Institute, the Turf Research Centre at Michigan State University, and Rutgers University. These stays have given me a broad network and many good friends around the world. Through this year we hope to extend the cooperation between Norway and China in the future”, she ends.

If you would like to meet Dr. Chen, you are invited to the Turfgrass Field Day at Bioforsk Landvik, Norway 17<sup>th</sup> June. She will also participate at the international seminar in Copenhagen 5 – 6<sup>th</sup> October, where low input management of turfgrass on golf courses will be discussed based on results from the STERF funded research project about red fescue management. More information about these events can be found at [www.sterf.org](http://www.sterf.org).



Dr. Yajun Chen from Northeast Agriculture University in China visits Bioforsk Norwegian Institute for Agricultural and Environmental Research at Landvik.



Dr. Yajun Chen and research technician Gunnar Myhre discuss the protocol for one of the experiments in the FESCUE GREEN project.

# Invitation to the International Zoysiagrass Symposium

by Hideaki Tonogi

International Relations Committee

Japanese Society of Turfgrass Science

The water resources available for turfgrass have been increasingly restricted in recent years due to insufficient precipitation and increased domestic, agricultural, and industrial consumption. It is a common practice in water conservation to employ turfgrass species whose water-use efficiency is high, and some species of zoysiagrass have been popularly employed as suitable turfgrass for water deficient areas in temperate, semitropical, and tropical regions around the world. In order to promote communication and cooperation among turf industry personnel and scientists regarding zoysiagrass, we are pleased to announce that the 2015 International Zoysiagrass Symposium will be held at Okinawa Prefectural Hall Jich-Kaikan in Okinawa, Japan, on November 22, 2015, organized by the Japanese Society of Turfgrass Science. We have invited four expert scientists from

four different countries: Dr. Bruce Martin (Clemson University, USA), Dr. Liebao Han (Beijing Forestry University, China), Dr. Joon Soo Choi (Dankook University, Korea) and Mr. Makoto Kobayashi (NARO, Japan). These speakers will present topics regarding the use of zoysiagrass in their countries. Mr. Kobayashi will discuss zoysiagrass breeding in Japan. We believe that this symposium will be the first step toward a future international meeting or conference.

The organizing committee cordially invites you to attend the symposium. Please contact our JSTS desk with [jsts@jcom.home.ne.jp](mailto:jsts@jcom.home.ne.jp) for further information. We are looking forward to meeting you in Okinawa, Japan.

2015 International Zoysiagrass Symposium  
2015 国際ゾイシアグラスシンポジウム  
presented by Japanese Society of Turfgrass Science

2015/11/22(Sun.)@Okinawa, Japan

The Japanese Turfgrass Society will hold an International symposium on the theme of "Zoysiagrass" in Okinawa, Japan. Zoysiagrass is becoming popular all the world and prominent turfgrass researchers from abroad especially in Asia have been invited to speak. This is intended to demonstrate candidacy potential to host the 16<sup>th</sup> International Turfgrass Research Conference in Japan in 2025 which last hosted the conference in 1989.

We intend to promote the use of Zoysiagrass so that it becomes more popular worldwide. In Okinawa, there is a rich source of breeding germplasm and understanding of the desirable characteristics such as excellent drought, wear, and heat tolerance. Additionally, there will be a presentation competition for young turfgrass researchers at the symposium. We are looking forward to your participation.

1. Date: November 22, 2015(Sun.) 9:00~17:00
2. Organizer: Japanese Society of Turfgrass Science
3. Location: Okinawa-prefecture Jichikaikan-Hall
4. Fee: 3,000 JPY
5. Key Speaker
  - Dr. Bruce Martin (Clemson University, USA)
  - Dr. Joon Soo Choi (Dankook University, Korea)
  - Dr. Liebao Han (Beijing Forestry University, China)
  - Dr. Makoto Kobayashi (NARO Institute of Livestock & Grassland Science, Japan)

Photo by Okinawa Convention & Visitors Bureau



Ein Leben lang  
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Welcome to the University of Applied Sciences, Osnabrück, the largest University of Applied Sciences in Lower Saxony! We offer 100 courses at three locations, all with practical relevance, an impressive teaching and research strength and individual development opportunities. Our students benefit from the academic and professional expertise of lecturers, our international network and a modern university management. To support us, we are looking for people who are innovative and want to remain curious throughout their lifetime.

The University of Applied Sciences, Osnabrück, Faculty of Agricultural Sciences and Landscape Architecture is looking to recruit, as from 01.07.2015 and subject to the appropriation of funding from the Federal Ministry of Economics and Technology, a member of the

## Scientific Staff (M.Sc. / Dipl.-Ing.)

for the research project "Development of a highly resilient sports turf construction type system using natural fiber armoring of the root zone layer", funded by "Central Innovation Program Middle Class (ZIM)".

The project deals with the development of a highly resilient construction system for natural turfgrass sports facilities. This design is characterized by a greatly improved durability of the turfgrass surface affected by an innovative and environmentally-friendly armoring of the root zone layer.

Within the framework of an independently implemented project, the position includes the following **tasks**:

- Responsible development of a specially adapted natural fiber to increase the resilience of the sports turfgrass
- Autonomous conceptual design, development and implementable planning of a research area in accordance with international standards
- Responsible implementation and monitoring of experiments
- Confident leadership of the project group
- Preparation and publication of research results in the form of scientific articles, reports and presentations.

The **requirements** include:

- Completion of an academic university degree in agronomy, horticulture, landscape construction, landscape architecture or similar
- Knowledge and experience in turfgrass research and sports field construction
- High degree of flexibility as well as good team and communication skills
- Fluency in written and spoken English
- Ability to perform detailed academic research.

The position is temporary until 31.12.2017 and set at 90% of normal working hours. The salary is based on salary group 13 of the TV-L tariff agreement.

We look forward to welcoming a motivated person who would like to support us in the continuous development of our university. Exciting work, active students and dedicated colleagues are waiting for you!

### You may also be interested in:

The University of Applied Sciences, Osnabrück promotes women within the legal possibilities and advocates gender equality and human diversity. Our university promotes the reconciliation of family and work, among other things, through very flexible working time models. Severely disabled applicants will be preferentially treated.

Applications with the appropriate documents (when sending by e-mail only as one file in a PDF format) are to be sent with the reference number **AuL 18** by 18.05.2015 to:

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Please send comments, feedback, and turfgrass news articles for future issues to the editor.

If you know any non-members, new faculty, staff, and new personnel involved in turfgrass research who might be interested in joining ITS please forward their email address to me and I will send a complementary copy of the next Triannual issue of International Turfgrass.

The deadline for submissions for the next newsletter is August 15, 2015